What is claimed is:

1. A base transceiver station (BTS) for communicating with a mobile station through an antenna supported on a top of a tower in a cellular communication system, the BTS configured to be affixed to the tower-top in a location proximal to the antenna,

whereby losses associated with coupling communication signals between the antenna and the BTS are reduced.

2. A BTS according to claim 1, wherein the BTS reduces losses associated with coupling communication signals between the antenna and the BTS by at least 3 dB over a cellular communication system in which the BTS is not affixed to the tower-top in a location proximal to the antenna.

3. A BTS according to claim 2, wherein the BTS is capable of providing an outgoing communication signal from the antenna having a power of at least 27 dBm.

4. A BTS according to claim 1, wherein the cellular communication system further includes a base station controller (BSC), and wherein the BTS comprises:

at least one transceiver adapted to communicate with the mobile station through the antenna;

a power amplifier in a communication path between the at least one transceiver and the antenna, the power amplifier adapted to amplify outgoing communication signals received from the BSC, and to output amplified communication signals; and

a power supply for supplying power to the power amplifier and the at least one transceiver,

whereby the size, complexity and electrical power consumption of the BTS are reduced.

5. A BTS according to claim 4, wherein the BTS further comprises a backhaul configured to couple communication signals between the BTS and the BSC.

6. A BTS according to claim 5, wherein the backhaul is configured to couple communication signals between the BTS and the BSC via a wireless communication system.

7. A BTS according to claim 6, wherein the BTS is configured to receive electrical power supplied by at least one photovoltaic cell affixed to the tower,

whereby a self-contained tower-top node is provided.

8. A communication network comprising:

an antenna;

a tower having a tower-top on which the antenna is supported;

a base transceiver station (BTS) affixed to the tower-top in a location proximal to the antenna, the BTS having at least one transceiver configured to communicate with a mobile station through the antenna; and

an amplifier affixed to the tower-top in a location proximal to the antenna, the amplifier in a communication path between the BTS and the antenna, and separate and distinct from the BTS, the amplifier configured to amplify and filter communication signals passed between the BTS and the mobile station.

9. A communication network according to claim 8, wherein losses associated with coupling communication signals between the BTS and the amplifier, and between the amplifier and the antenna are reduced by at least 3 dB over a communication network not having a BTS and an amplifier affixed to the tower-top in a location proximal to the antenna.

10. A communication network according to claim 8, wherein the amplifier is capable of providing an outgoing communication signal from the antenna having a power of at least 39 dBm.

11. A communication network according to claim 8, further comprising a base station controller (BSC), and a backhaul affixed to the tower-top in a location proximal to the antenna, the backhaul configured to couple communication signals between the BTS and the BSC.

12. A communication network according to claim 11, wherein the backhaul is integrated with the BTS.

13. A communication network according to claim 11, wherein the backhaul is configured to couple communication signals between the BTS and the BSC via a wireless communication system.

14. A communication network according to claim 13, further comprising at least one photovoltaic cell affixed to the tower for supplying electrical power to the BTS, the amplifier and the backhaul,

whereby a self-contained tower-top node is provided.

15. In a communication network having an antenna supported on a top of a tower, a method for facilitating communication with a mobile station, the method comprising steps of:

providing a base transceiver station (BTS) affixed to the top of the tower in a location proximal to the antenna, the BTS having at least one transceiver configured to communicate with a mobile station through the antenna;

providing an amplifier affixed to the top of the tower in a location proximal to the antenna, the amplifier in a communication path between the BTS and the antenna, and

separate and distinct from the BTS, the amplifier configured to amplify and filter communication signals passed between the BTS and the mobile station;

operating the at least one transceiver to communicate with the mobile station; and

amplifying and filtering communication signals passed between the BTS and the mobile station,

whereby losses associated with coupling communication signals between the BTS and the amplifier, and between the amplifier and the antenna are reduced over a communication network not having a BTS and an amplifier affixed to the top of the tower in a location proximal to the antenna.

16. A method according to claim 15, wherein losses associated with coupling communication signals between the antenna and the BTS are reduced by at least 3 dB.

17. A method according to claim 15, wherein the step of amplifying and filtering communication signals passed between the BTS and the mobile station comprises the step of transmitting an outgoing communication signal from the antenna having a power of at least 39 dBm.

18. A method according to claim 15, wherein the communication network further comprises a base station controller (BSC), and a backhaul affixed to the top of the tower in a location proximal to the antenna and configured to couple communication signals between the BTS and the BSC, and wherein the method further comprises the step of coupling communication signals between the BTS and the BSC using the backhaul.

19. A method according to claim 18, wherein the backhaul is configured to couple communication signals between the BTS and the BSC via a wireless communication system, and wherein the step of coupling communication signals between the BTS and the BSC using the backhaul comprises the step of coupling communication signals between the BTS and the BSC via the wireless communication system.

20. A method according to claim 19, further comprising the step of supplying electrical power to the BTS, the amplifier and the backhaul from at least one photovoltaic cell affixed to the tower.